

The listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

- Sub D3
B6
10. (Amended) A semiconductor device comprising:
a silicon substrate forming one of a collector and an emitter, the substrate being of a first conductivity type;
a layer of SiGe of a second conductivity type covering at least a portion of the silicon substrate; [and,]
a first layer of polysilicon of the second conductivity type at least substantially supported by and covering a substantial portion of the SiGe layer with the exception of a window region, the layer of SiGe having its surface unaffected by a process of etching within the window region, the first layer of polysilicon forming a [SiGe] base terminal of the transistor; and,
a second layer of polysilicon of the first conductivity type covering and contacting the unetched SiGe [base] layer of the transistor, said layer of polysilicon forming the other of the collector and the emitter.
11. (Amended) A semiconductor device as defined in claim 10 wherein the silicon substrate comprises [is] n-type material and forms the collector.
12. (Amended) A semiconductor device as defined in claim 11 wherein the layer of SiGe [is] comprises p-type material, and wherein the second layer of polysilicon [is] comprises n-type material and forms the emitter.
13. (Amended) A semiconductor device comprising:
a silicon layer of a first conductivity type;
a layer of SiGe of a second conductivity type covering at least a region of the silicon layer; and,

a first layer of polysilicon of the second conductivity type at least substantially supported by and covering a substantial portion of the SiGe layer with the exception of a small window; and,

a second layer of [poly]silicon of the first conductivity type covering the window region and contacting the SiGe layer within this small window, where the SiGe layer within the window region has a surface unaffected by a process of etching.

14. (Original) A semiconductor device as defined in claim 13, wherein the silicon layer serves as a substrate and is substantially thicker than the layer of SiGe.

B6
cont'd. 15. (Original) A semiconductor device as defined in claim 13 wherein the SiGe layer has a substantially uniform thickness.

16. (Amended) A semiconductor device as defined in claim 13 wherein the thickness of the SiGe layer covered by the second layer of [poly]silicon is of a substantially a same thickness and impurity concentration as the remaining portion of the layer of SiGe covering at least a region of the silicon layer.

B7 22. (Original) A semiconductor device according to claim 10, comprising an insulating layer between the two layers of polysilicon.

Sub D3 23. (Original) A semiconductor device according to claim 22, wherein the insulating layer is formed by reacting the first layer of polysilicon with a substance to form an insulating cover thereon.

24. (Original) A semiconductor device according to claim 22, wherein the insulating layer is formed by depositing an insulating material thereon.

25. (Original) A semiconductor device as defined in claim 10, wherein the SiGe layer has a substantially uniform thickness.

26. (Original) A semiconductor device as defined in claim 10, wherein the thickness of the SiGe layer covered by the second layer of polysilicon is of a substantially a same thickness and impurity concentration as the remaining portion of the layer of SiGe covering at least a region of the silicon layer.

27. (Original) A semiconductor device according to claim 13, comprising an insulating layer between the two layers of polysilicon

28. (Original) A semiconductor device according to claim 27, wherein the insulating layer is formed by reacting the first layer of polysilicon with a substance to form an insulating cover thereon.

29. (Original) A semiconductor device according to claim 27, wherein the insulating layer is formed by depositing an insulating material thereon.

30. (Amended) A semiconductor device [as defined in claim 10,] comprising:
a silicon substrate forming one of a collector and an emitter, the substrate being of a first conductivity type;
a layer of SiGe of a second conductivity type covering at least a portion of the silicon substrate;
a first layer of polysilicon of the second conductivity type at least substantially supported by and covering a substantial portion of the SiGe layer with the exception of a window region, the layer of SiGe having its surface unaffected by a process of etching within the window region, the first layer of polysilicon forming a [SiGe] base terminal of the transistor; and,
a second layer of polysilicon of the first conductivity type covering and contacting the unetched SiGe [base] layer of the transistor, said layer of polysilicon forming the other of the collector and the emitter.

wherein the SiGe layer has a controllable thickness profile in a direction transverse the layers within the semiconductor substrate within predetermined limits, the controllable thickness profile for providing substantially reproducible results for the thickness of the SiGe layer.

B7
cont'd. 31. (Original) A semiconductor device as defined in claim 30, wherein the controllable thickness profile provides substantially reproducible electrical characteristics of the SiGe layer.

32. (Original) A semiconductor device as defined in claim 31, wherein the controllable thickness profile of the SiGe layer is other than a uniformly thick layer.
